

Amendments to the Claims

The following listing of claims will replace all prior versions and listings of the claims in the application:

Claims 1-8 (previously canceled).

Claim 9 (currently amended): A process ~~useful for detecting the properties~~ increasing the temporal rate at which an image of an object is acquired using measurements within a spatial frequency space while maintaining a local resolution and spatial frequency resolution of the image, the object being imaged by one of magnetic resonance imaging (MRI) or nuclear magnetic resonance (NMR), the process comprising:

detecting a central area and first areas of the spatial frequency space, the first areas being a first distance from the central area and extending in a first direction;

detecting the central area and second areas of the spatial frequency space, the second areas being a second distance from the central area and extending in a second direction that is opposite to the first direction; and

detecting the central area and third areas of the spatial frequency space, the third areas being a third distance from the central area and extending in the first direction; and

using the detected areas of the spatial frequency space to increase the temporal rate at which the image of the object is acquired using one of MRI or NMR, while maintaining the local resolution and the spatial frequency resolution of the image.

Claim 10 (previously amended): The process according to claim 9, wherein the first, second, and third areas of the spatial frequency space are spaced at different distances from the central area.

Claim 11 (previously amended): The process according to claim 9, wherein the areas of the spatial frequency space that overlap cover the central area.

Claim 12 (previously amended): The process according to claim 9, wherein the first, second, and third areas of the spatial frequency space have higher spatial frequencies than the central area.

Claim 13 (previously amended): The process according to claim 9, wherein the first, second, and third areas of the spatial frequency space extend substantially parallel to each other.

Claim 14 (previously amended): The process according to claim 9, wherein elements of one of the first, second, or third areas of the spatial frequency space form a disjunctive set.

Claim 15 (currently amended): The process according to claim 14, wherein the disjunctive set of elements extend substantially parallel to each other in the spatial frequency space.

Claim 16 (previously amended): The process according to claim 9, wherein the process suppresses noise effects.